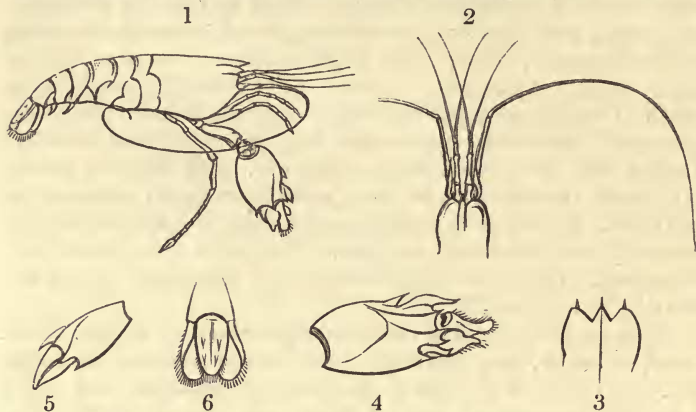


guished naturalist, in adopting the "*Crangon bispinosus*" and "*trispinosus*" of Mr. Hailstone, should have omitted all reference to a form so very remarkable and so carefully detailed as Mr. Hailstone's "*Hippolyte rubra*."

In the belief that my Channel Island Crustacean is a new and undescribed species, I propose to bestow upon it the name of *Alpheus affinis*; thereby indicating the close relationship which it bears to the three other European species already referred to.



1. *Alpheus affinis*, natural size.
2. Enlarged view of front of carapace, showing supra-orbital vaults, insertion of antennæ, &c.
3. Front of carapace still further enlarged, showing beaked rostrum and spinous armature of supra-orbital vaults.
4. Enlarged view of larger pincer.
5. Enlarged view of lesser pincer.
6. Tail.

XXVIII.—Descriptions of three new species of British Actiniæ.

By PHILIP H. GOSSE, A.L.S.

Actinia aurora. The Orange-tentacled Anemone.

Body in contraction a hemispherical button $\frac{1}{2}$ inch in diameter, of an umber-brown hue, occasionally varying to olive, marked with narrow longitudinal pale bands, which become wider and more conspicuous towards the base, and obsolescent at the discal margin, where the brown hue is deepest. The pale bands are separated by about four times their own width, but have at the base several short and vanishing pale lines between them.

The exterior of the body is studded with numerous pale oblong sucking-glands, not prominent, to which grains of sand, fragments of shell, &c. adhere strongly.

Tentacles about eighty in number, set in four rows, of which the inner row contains about six a little more prominent than the rest, and often either perpendicular or bent over the disk; the others are set so irregularly, that though there is an approximation to a serial arrangement, they can scarcely be distributed into rows, except arbitrarily. The external ones are the smallest. They are moderately thick at the base, tapered to a blunt point, and the longest about equal in length to the diameter of the disk. They are pellucid at the basal moiety, and nearly colourless; thence they are tinged with orange or red-lead, faintly at first, but becoming very brilliant at the tips. Under a lens this colour appears to be superficial, and to be composed of minute dust-like powdery specks; but on submitting the tentacles to pressure under a power of 220 diameters, I find that the red pigment is deposited on the *interior* surface, from which it escapes by the rupture of the walls. The latter are somewhat thin, yellowish, clear, and full of minute thread-cells of the usual form, and about $\frac{1}{1100}$ th of an inch in length.

Disk variegated with dark brown, grayish drab and white; the former two colours arranged irregularly in a minute pattern, the latter forming a circle of opaque white spots surrounding the mouth. The angles of the mouth are indicated by a pale band, which passes from each across the disk, in which are conspicuous the ovarian orifices.

The pattern of the disk is often the same as that of *troglydites*, but is never so distinct: in some specimens only the ring of white spots can be seen on a blackish-olive ground; in others nearly the whole disk is yellowish-white. One specimen (which I take to be a variety of this species) has all the tentacles pure opaque white, without any trace of orange, and the disk also white, marked dimly with gray.

I find it in one of the caverns of St. Catherine's Island, Tenby, where it is common, in company with *A. troglydites*, and with the same habits.

One specimen in my possession produced young freely, ejecting them from the oral aperture four or five at once. They varied in size, from that of a mustard-seed downwards; were very prettily marked, with radiating white bands on a yellowish ground when contracted; and displayed, when expanded, from twelve to eighteen orange tentacles.

Actinia venusta. The Orange-disked Anemone.

Button about $\frac{1}{2}$ inch in diameter, and the same in height. Flower-like expanse 1 inch wide.

The button varies from deep buff to rich brown-orange, studded

with minute pale sucking-glands, and marked around the base with short and vanishing longitudinal pale lines.

Tentacles about 200 or more, not in distinct rows, the inner ones about as long as the diameter of the disk, the outermost small and close-set; slender, acute, somewhat flaccid; pure white, becoming pellucid at the base, and sometimes at the tip.

Disk commonly ovate, wholly of a brilliant orange or red-lead colour, with no markings except the indications of internal structure, which are dimly visible through the integument. Its surface is plane; the mouth a simple orifice, without distinct lips or cone.

This most elegant species I have met with only in the neighbourhood of Tenby, where it is so abundant as to be quite characteristic. It occurs all along the south coast of Pembrokeshire, at least from Monkstone Point to St. Gowan's Head, but is more than usually numerous in the fine perforated caverns of St. Catherine's Island, that form such an attraction to Tenby visitors. It is a troglodyte species, almost invariably choosing for its residence some crevice or cranny, or one of those little cavities made by boring mollusks, with which the limestone here is so generally honeycombed. Though we often see it in shallow pools with a bottom of mud, we invariably find on examination that it is attached to a hole in the rock beneath, protruding its body through the deposit by elongation, and expanding its beautiful disk on the surface. From this habit it is difficult to procure, notwithstanding its abundance, as it must be chiselled out,—an operation, which, from the great hardness of the limestone, is both tedious and precarious.

Hundreds may be seen in the largest of the caverns alluded to, hanging down from the walls during the recess of the tide; the button elongated to an inch or more. They expand very readily in captivity, displaying the brilliant disk in full, fringed with its elegant border of white tentacles; yet not unseldom do we see the margin puckered into frilled folds, in the manner of *A. bellis* and *dianthus*, though to a less extent.

This species has close relations with *A. nivea* and *A. rosea*, especially with the former. Its colouring, however, seems constant, without any tendency to albinism; and its habit of throwing the margin into puckers, and its tendency to an ovate outline, also distinguish it, though less satisfactorily. From *rosea* it is better distinguished by its superior size, and by the greater comparative thickness of its inner tentacles, which also are more discal, whereas in *rosea* they are all marginal. All the three species throw out white filiferous filaments in great profusion when annoyed.

In *venusta* these are densely crowded with capsules $\frac{1}{450}$ th of

an inch long, which protrude a thread about three times their own length. This is slender, but occasionally I have detected a waved outline which indicates a bearded appendage.

Actinia thallia. The Glaucous Warty Anemone.

Button $1\frac{1}{4}$ inch in diameter, usually 1 inch in height, but capable of elongation to double this altitude. Expanded flower 2 inches.

Button pale bluish-green, studded with prominent warts of a darker hue, set in 25 to 30 longitudinal rows, about 25 in each row; the topmost or marginal wart becoming an elongated pale tubercle or rudimentary tentacle.

Tentacles about 48 in number, in two rows, equal in size; thick, obtuse, scarcely more than half as long as the diameter of the disk, even when extended:—pellucid grayish-brown, with a longitudinal, undefined, dark brown streak along the facial side of each, on which are placed irregularly several specks and splashes of opaque white, varying in number, shape, size and position.

Disk a many-rayed star of yellow rays on a blackish ground: thus produced:—the inner circle of tentacles have their discal ribs blackish, with a spindle-shaped spot of yellow near the mouth. Those of the outer row are similarly marked, but the yellow spot is drawn out to a long line, dividing the primary tentacle-ribs from each other: these lines make the rays of the facial star.

This is a very well-marked and constant species; out of a dozen specimens that I procured, no two differed in any appreciable degree, except in size. It approaches close to *A. gemmacea*, from which however it is easily distinguished by colour, and by its superior dimensions.

I found it in only one locality; in the dark angles and pools of a little insular rock, exposed at spring tide, that lies just off the Cove called the Droch, near Lidstep in Pembrokeshire, on the east side. It is not troglodyte in habit, but adheres to the open rock, and is therefore easily detached. It is very social: I almost invariably found four or five clustered together in a lump, each pressing upon the sides of the others.

In captivity it is shy of expanding: it is also reluctant to adhere, and very readily detaches its base, either wholly or in part, when it will frequently remain for days without again affixing itself. If the water become stale, it manifests its impatience in this way, and dies sooner than most species. Like *gemmacea*, it throws off successive rings of mucus from its body, which accumulate around its base if not removed.

The resemblance of this species to *A. gemmacea* is heightened by the habit of elongating itself in the form of a column, when closed.

It does not throw out filiferous filaments when irritated, but the convoluted bands are protruded from wounds in the base. Examining a small portion of one of these, I found two sorts of capsules; one of a lengthened oval form, $\frac{1}{900}$ th of an inch in length, from which a thread apparently simple, $\frac{1}{24}$ th of an inch long, is evolved; the other and more numerous, excessively linear, $\frac{1}{450}$ th in length. I am not sure, however, whether these latter be capsules, as I did not see one discharge.

In the skin surrounding the margin the capsules are linear-oblong and very minute, $\frac{1}{1750}$ th in length. Those in the walls of the tentacles are similar in form and size.

The name is from *θαλλία*, an olive shoot, in allusion to its elongated form and glaucous colour.

BIBLIOGRAPHICAL NOTICES.

The Ferns of Great Britain. Illustrated by JOHN E. SOWERBY. The Descriptions, Synonyms, &c. by C. JOHNSON. London: J. E. Sowerby, 3 Mead Place, Lambeth.

WE have received the first two Numbers of this new work upon the British Ferns, and have much pleasure in being able to recommend it to botanists and fern growers. Mr. Johnson has succeeded in making his part of the book readable, without omitting the requisite technical descriptions of the plants. We think that he has acted wisely in retaining the names that are now most in use, for those are also we believe the more correct ones, in nearly if not quite all cases. Much as we are indebted to Mr. Newman for our present knowledge of British Ferns, and greatly as his earlier writings tended to the adoption of a correct nomenclature, we cannot allow the present opportunity to pass without expressing sorrow that he should have made such extensive and, as we think, uncalled-for changes in the names in the lately-issued new edition of his 'History of British Ferns.' It is right however to add, that we have only seen his abridged account of them, published in connection with the 'Phytologist,' as we have not yet had an opportunity of examining his larger work with the requisite care. Having paid no slight attention to the nomenclature of Ferns, we do not expect that our views will be much changed by its perusal.

But to return to the work before us. It may be considered as a proof of how little objection we make to the describer's part of it, when we mention a subject of such slight consequence as the names of the localities. It is nevertheless rather singular that all the Welsh names are spelled wrong; one of them indeed we have not identified, it is Moel Sichog; a name that does not occur in Mr. Moore's very